

Dust

We have received a number of complaints about dust from mining operations in the pit recently. We acknowledge that this can be annoying for some people and so we are actively considering what measures we could implement to ease dust occurrences. Last week our Update newsletter discussed noise and the steps we

take to manage noise due to our mining operations. This week we discuss the measures we take to reduce dust. Noise and dust go hand-in-hand as the effects of both are so dependent on weather – especially on wind.

What steps do we take to manage dust on our site?

We run the water tanker vehicles (dustbusters) when necessary for dampening down active operational areas in the pit, stockpiles, processing plant and waste disposal areas. The focus is normally on haul roads, adjacent windrows (rock walls on the sides of the haul roads), workshop yards and re-handling areas. Fine material generated by road construction and haulage is kept damp.



When mud dries it can generate dust. Wheel wash facilities to prevent mud tracking off site are located at both the pit and waste disposal areas. Drivers must take muddy vehicles through the wheel wash before leaving the site. Security personnel are authorised to turn drivers back to clean dirty vehicles.

Dust collectors and bag filters are used on exploration drill rigs and the blast hole drill rigs in the open pit. Diamond drilling uses fluid lubrication and produces negligible dust.

At the crushers and conveyor transfer points we use irrigation sprays. Conveyors in exposed locations are roofed, which reduces drying effects and exposure to gusts.



We hydroseed and plant selectively on exposed areas of the upper open pit batters and benches (above the eventual lake level) and maintenance and enhancement is ongoing. We continue to carry out trials to determine the best species/maintenance regime to keep a sustainable vegetative cover.



We rehabilitate final batters at the waste disposal site and long term stockpiles as soon as surfaces are available and weather is appropriate.

We install screens and fences to prevent wind-blow in dust prone areas (e.g. lime silos).

Conservative speed limits reduce dust disturbance from passing vehicles. The most commonly used access roads have been sealed.



We have trialled approved surface binding agents for dust control and will use further new technologies where they are successful and cost effective.

How do we rate when compared with other Waikato towns?

We can demonstrate 100% compliance with the Mining Licence, the Resource Consents, the air quality guidelines, and the National Environmental Standard (NES) for PM₁₀ for more than ten years.

Our technicians undertake monitoring in Waihi and as well as this the Waikato Regional Council (WRC) carries out air quality monitoring in towns throughout the Waikato area, including Waihi. WRC annually publishes a report detailing their findings and it is available on their website www.waikatoregion.govt.nz. The latest report, entitled 'Air Quality Monitoring Report for Hamilton, Tokoroa, Taupo, Te Kuiti, Matamata, Putaruru, Ngaruawahia, Waihi and Turangi – 2010' states:

'No exceedences of 50 µg m⁻³ (50 micrograms per cubic metre) were measured at the air quality monitoring site in

Waihi during 2010. A cluster of higher than average PM₁₀ concentrations were recorded around 10-16 July (Figure 10.3). The highest of these and the maximum PM₁₀ concentrations measured at Waihi during 2010 was 45 µg m⁻³. Previous maximum winter PM₁₀ concentrations have been around 33 µg m⁻³.'

There were breaches in 2010 in other towns, as shown in the table below left.

'More than one exceedence of the 50 µg m⁻³ constitutes a breach of the NES. The annual average concentration for each location are shown and can be compared with an annual average guideline of 20 µg m⁻³ (MfE, 2002).'

Summary of PM₁₀ monitoring results for 2010 in Waihi

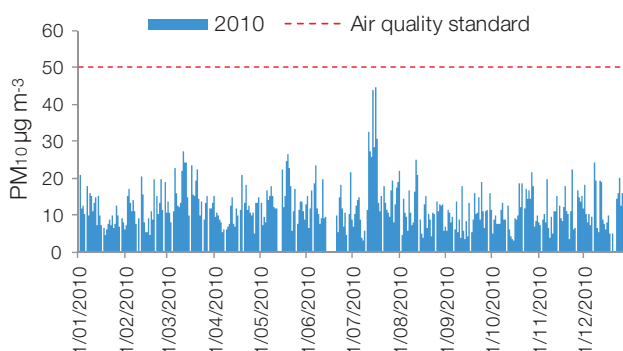


Figure 10.3

The spike in July is a direct result of soot created by wood-burning domestic heating, and this can also be seen in one of the air filters in the photograph.

Glossary:

PM₁₀ - particulate matter sized 0 to 10 microns (an average human hair is approximately 70 microns thick). Because the particles are small enough to be inhaled, they can have an effect on human health. While levels are set for deposited particulate and total suspended particulate to protect against nuisance dust effects, PM₁₀ levels are set to protect against health effects.

µg m⁻³ - micrograms per cubic metre. (One microgram is one-millionth of a gram).

Other Influences

The mine is not the only contributor of dust. Our monitors monitor the air quality around them. The monitors do not differentiate between



mine dust and other dust, even though the results from the monitors are used to establish our compliance. Pollen, open fires and road traffic all contribute to dust in the atmosphere. An example of the influence of domestic open fires on air quality is seen by comparing summer and winter filters. In winter soot is clearly an influence on air quality during the colder months.